

Work Order ID 149395

July 22, 2016 3:10:51 PM

149395

AMOD

Page 1

Item ID: D2804-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bracket
 Start Date: 9/14/2016 Start Qty: 11.00 ***11*** Cust Item ID:
 Required Date: 9/27/2016 Req'd Qty: 11.00 ***11*** Customer:
 Reference:

Approvals: Process Plan: SL Date: 7/25/16 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2804	D								
100	FLOW WATER JET	0.00							
100									
Waterjet	Memo	0.82							
FLOW CNC Waterjet	1-Cut as perFile D2804-1-2_Blank								
	Dwg Rev: <u>D</u>								
	Prog Rev: <u>D</u>								
	2-Deburr if necessary								
110	HAAS CNC VERTICAL MACHINING #1	0.18							
110									
HAAS 1	Memo	1.34							
HAAS CNC vertical machine #1	Machine as per folio FA103								
120	QC2- Inspect parts off machine FAI/FAIB	0.00							
120									
QC	Memo	0.02							
Quality Control									

11

as 16/08/23

11

16-08-17

11

16-09-17

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

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149395

Page 2

Item ID: D2804-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Bracket

Start Date: 9/14/2016 Start Qty: 11.00

11

Cust Item ID:

Required Date: 9/27/2016 Req'd Qty: 11.00

11

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC8- Inspect parts - second check	0.00							
130									
QC	Memo	0.04				11	Ø		DAS 44 9-89 16-09-21
Quality Control									
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140									
HandFinish	Memo	0.48							
Hand Finishing									
145	QC7-Inspect Chemical Conversion Coat	0.00							
145									
QC	Memo	0.02							
Quality Control									

(x11) Ø 2016/09/21
BEB

(11) SEP 21 2016
DAS
38
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
310 320 330				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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SEP 21 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : _____							

Picklist Print

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Page 1

Work Order ID: 149395

149395

Parent Item: D2804-1

D2804-1

Parent Item Name: Bracket

Start Date: 9/14/2016

Required Date: 9/27/2016

Start Qty: 11.00

Required Qty: 11.00

Comments: IPP A00.11.06New IssueEC
IPP B06.05.30 Blanks on wtjetEC
IPP Rev:C As per Rev C 06-11-09 JLM
IPP Rev:D Removed Tumbling 08-09-09 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B0.500X10.00 0		Purchased		No			f	25.7000		8.25			

M6061T6B0 500X10 000

6061-T6 Bar .500 x 10.00

**

2-16/08/23

Location	Loc Qty	Loc Code
MAT	1.7	
M131700	1.7	
MAT001	24	
M134984	24	
135377		

~~15~~
15

DQA: _____ Date: _____

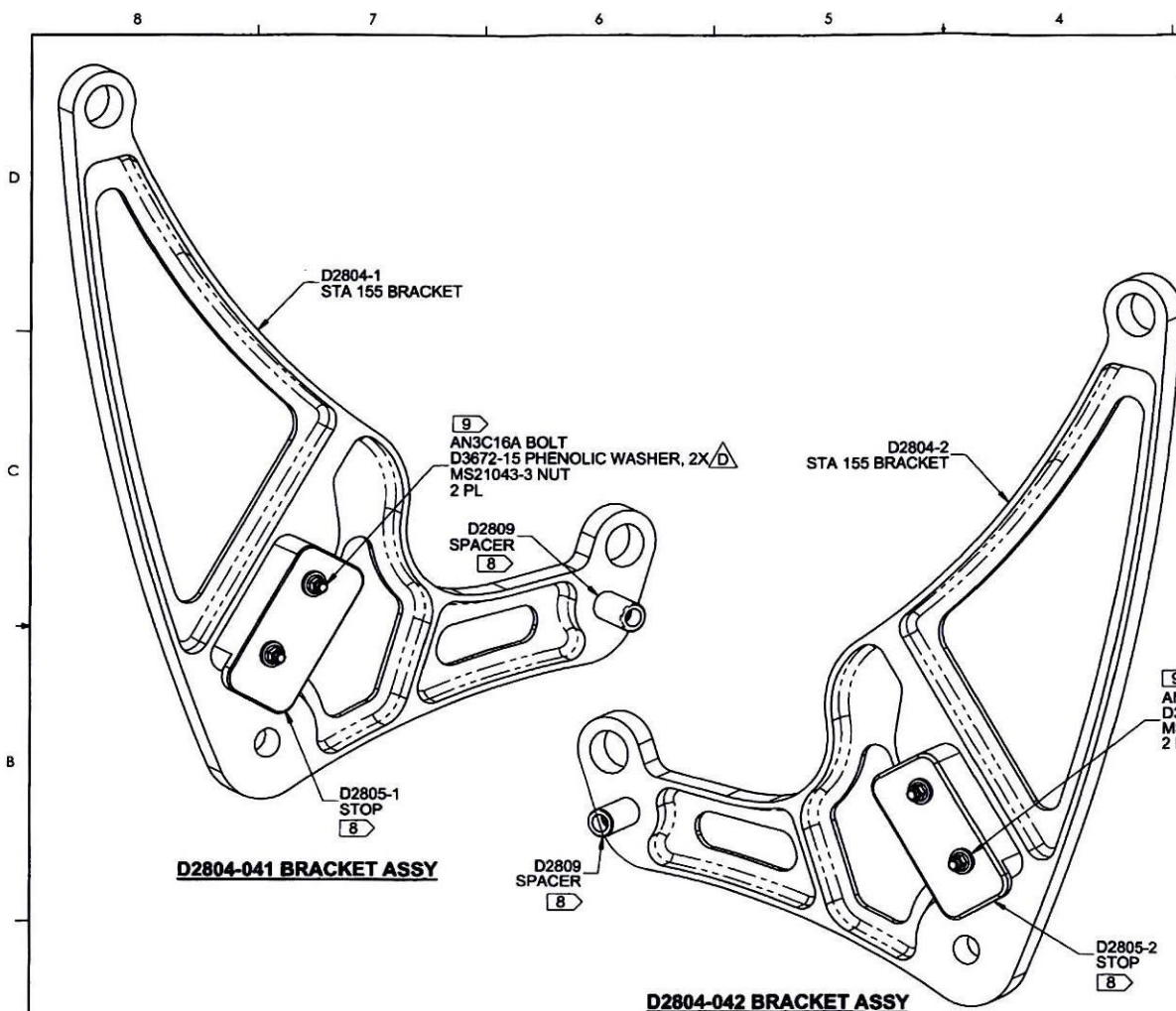
WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					



ITEM	QTY -041	QTY -042	P/N	DESCRIPTION
	X		D2804-041	BRACKET ASSY
		X	D2804-042	BRACKET ASSY
1	1		D2804-1	STA 155 BRACKET
2		1	D2804-2	STA 155 BRACKET
3	1		D2805-1	STOP
4		1	D2805-2	STOP
5	1	1	D2809	SPACER
6	4	4	D3672-15	PHENOLIC WASHER
7	2	2	AN3C16A	BOLT
8	2	2	MS21043-3	NUT, SELF-LOCKING

RELEASED

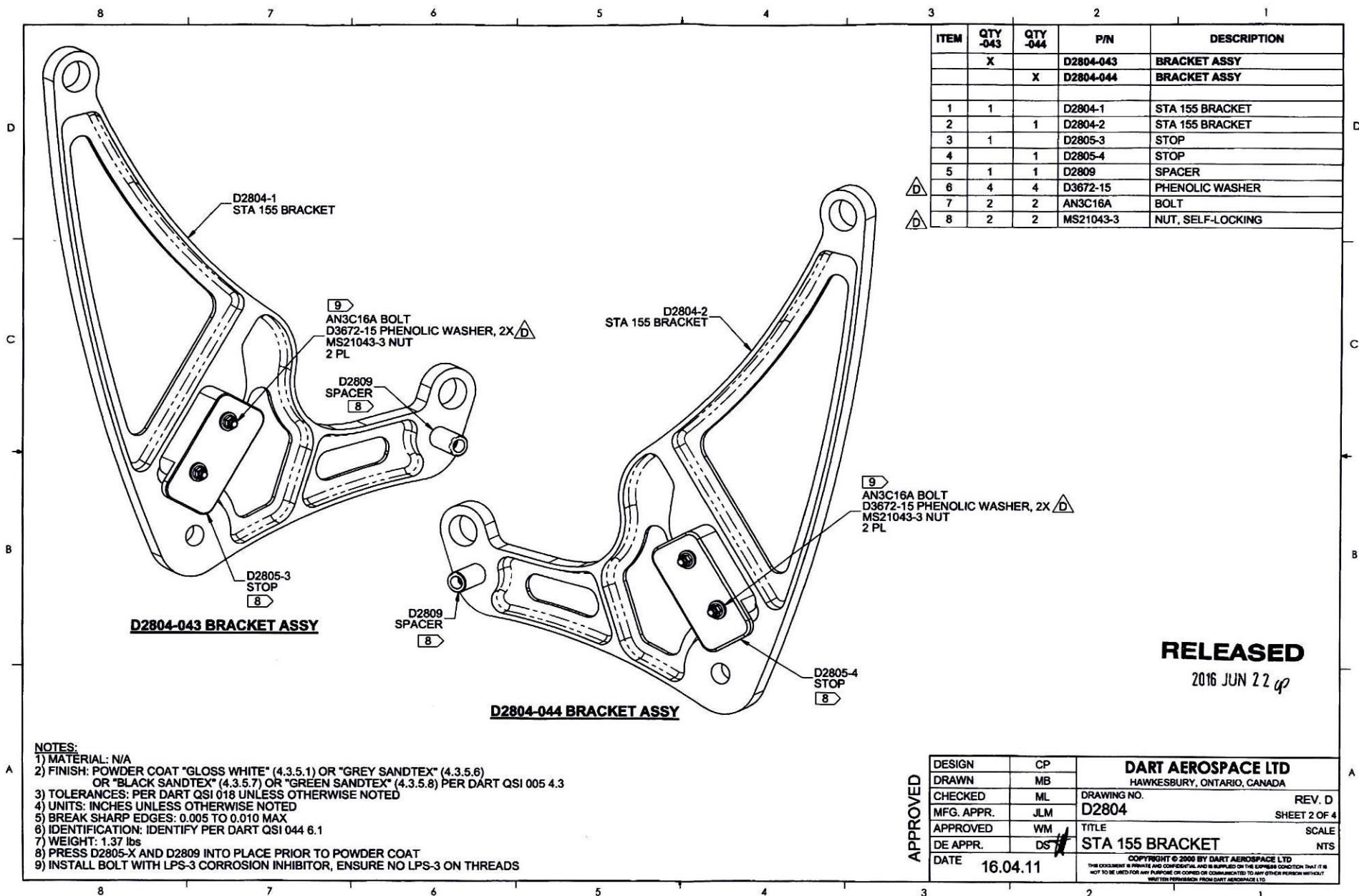
2016 JUN 22
EKN 16-64

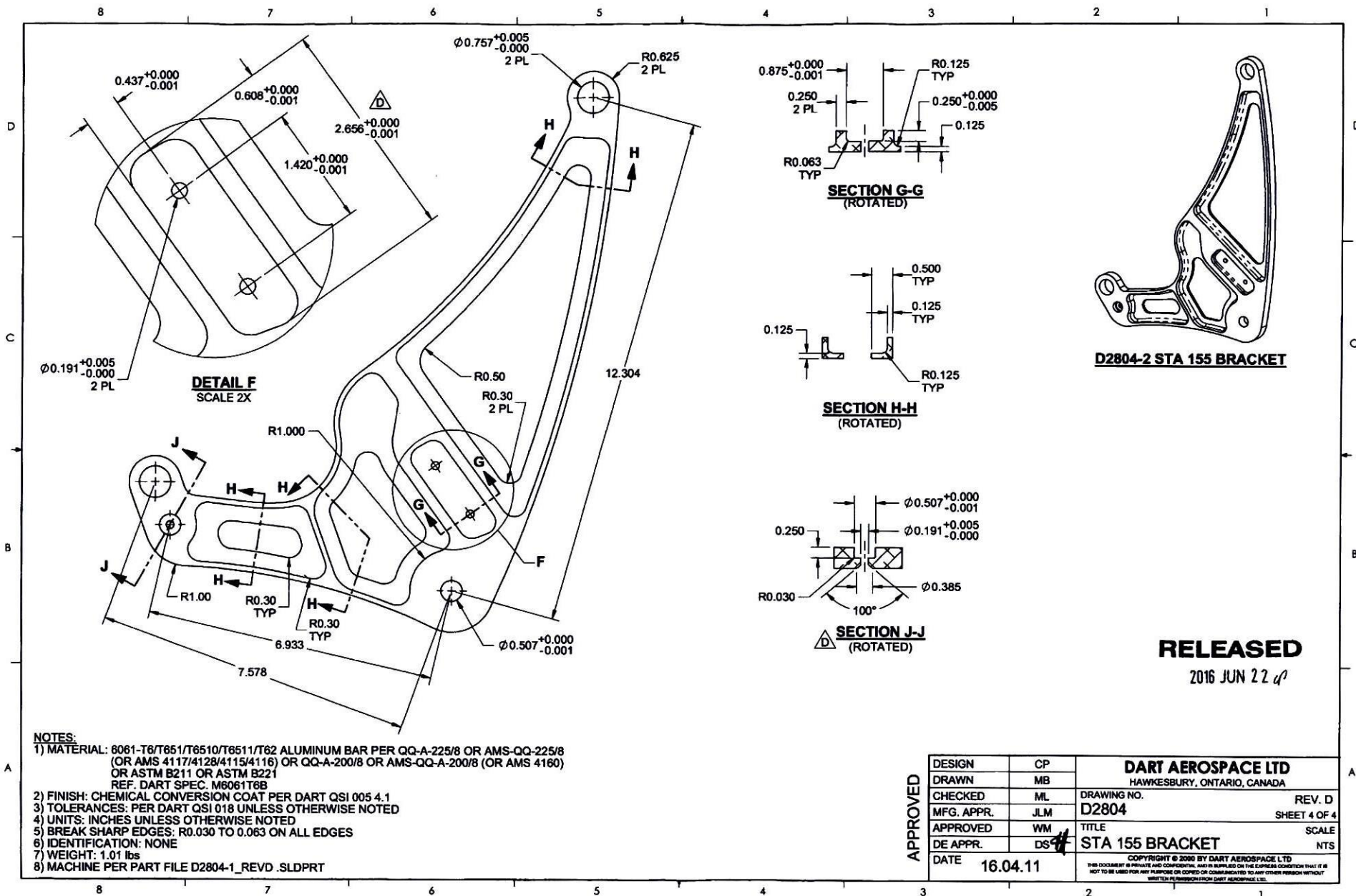
SA 149395 7/25/10

D	REVISE TO CURRENT FORMAT: D3672-15 WAS NAS1515H3; MS21043-3 WAS MS21042-3; ADD CSINK (SECTIONS E-E AND J-J). REF: PAR16-499. 06-3-4; 2.656 WAS 2.654 REASON: CAD ERROR.	MB	16.04.11
C	CHANGE GEOMETRY TO ADD CLEARANCE	CP	06.10.16
B	ADD CUTOUTS AND -043/-044	CP	04.11.22
A	NEW ISSUE	CP	00.11.07
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	MB		
CHECKED	ML	DRAWING NO.	REV. D
MFG. APPR.	JLM	D2804	SHEET 1 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	STA 155 BRACKET	NTS
DATE	16.04.11	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT "GLOSS WHITE" (4.3.5.1) OR "GREY SANDEXT" (4.3.5.6) OR "BLACK SANDEXT" (4.3.5.7) OR "GREEN SANDEXT" (4.3.5.8) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.1
- 7) WEIGHT: 1.37 lbs
- 8) PRESS D2805-X AND D2809 INTO PLACE PRIOR TO POWDER COAT
- 9) INSTALL BOLT WITH LPS-3 CORROSION INHIBITOR, ENSURE NO LPS-3 ON THREADS





DART AEROSPACE LTD		Work Order: 149395
Description: Bracket		Part Number: D2804-1
Inspection Dwg: D2804	Rev: <i>474</i>	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.757	+0.005/-0.000	.757			Sage Pin	
Ø0.191	+0.005/-0.001	.190			↓	
1.420	+/-0.001	1.420			Vern LP 09	
Ø0.507	+0.000/-0.001	.506			Sage Pin	
0.250 deep	+/-0.010	.251			dept mic LP 07	
Ø0.507	+0.000/-0.001	.506			Sage Pin	
Ø0.191	+0.005/-0.000	.190			Sage Pin	
6.933	+/-0.010	6.933			Height gage	
7.578	+/-0.010	7.578			↓	
12.304	+/-0.010	12.304			↓	
0.125	+/-0.010	.125			Vern	
0.500	+/-0.010	.499			↓	
0.125	+/-0.010	.124			↓	
0.250	+/-0.010	.251			↓	
0.875	+0.000/-0.001	.874			Sage Pin	
0.250	+0.000/-0.005	.2465			dept mic LP 09	
Ø 0.385 ± .001	+/- 0.010	0.385	✓		Caliper	JCL-08

Measured by: <i>P</i>	Audited by: <i>44</i>	Prototype Approval:	N/A
Date: 16-09-17	Date: 16-09-21	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.25	New Issue	KJ/JLM	
B	06.06.05	Removed dimensions 12.625, 0.608, 0.437, 2.654	KJ/EC	
C	06.11.10	Revised per drawing revision C	KJ/JLM	
D	09.03.10	Tolerance revised for Ø0.757	KJ/DD	